

Work Order ID 74625

Tuesday, October 04, 2011 11:41:56 AM

Page 1

Item ID: D350-636-012

Accept

Setup Start

Revision ID:

Stop

Item Name: Skidtube RH

Start Date: 10/4/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan: MLJDate: 11/10/07 Tooling:

Date:

Run Start

QC:

Date: SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2750

F

D3492

C

0.00

100



DC

DOCUMENT CONTROL

0.00

Memo

Document Control

Photocopy blue file and type labels per PPP D350-636-012 CHG 006

8 u/10/77for MLJ 11-10-27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

110



Skidtubes

Skidtubes

0.00

Skidtubes

Memo

0.00

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

SAD 11-10-06

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.
SECOND SIDE

8-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail L to 0.500" (8 holes per side)

9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

B11/10/14

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004
A/R Aluminum Rod batch: M118736

BE 11/10/17

12-Grind welds flush as per Dwg D2750

B 11/10/18

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

S vlc01/18

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

S vlc01/18

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00							
150 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							

BB 11/10/18

11-10-19

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Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
	Skidtubes								
Skidtubes	Memo 1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750. 2-Open up holes of Detail K to 0.750" (total of 4 holes per side) as per dwg D2750. 3-Open float holes to .500" (4 per Side) 4-Chamfer holes of Detail K, L, ground handling and float holes per dwg D2750 (welding instructions on sheet 9) 5-Deburr and blow out all chips from inside of tube 6-Prepare tube for welding, remove alodine as required. 7-Bond web D2739 in place as per QSI 015 A/R <input type="checkbox"/> Sikaflex-291 batch: 78754 <input type="checkbox"/> <input type="checkbox"/> M118393 exp. date: 12-05-05 8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 9) A/R <input type="checkbox"/> Aluminum Rod batch: M11836 BE 11/10/20 9- At section AP-AP drill out x-bolt spacer to 0.404" BE 11/10/20 10-Grind welds flush as per Dwg D2750 11-Spot face ground handling holes section (total of 4 places per side) as per	0.00							

B 11/10/19

SAD 11-10-19

B 11/10/20

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



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dwg D2750

12-Deburr holes

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

0.00

Memo

8/11/2015

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

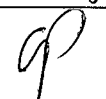
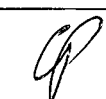
Memo

8/11/2015

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11.10.20	16	Fwd ground handling hole does not align with hole in I-beam. Hole in I-beam is off. 0.020 Overlap @ 0.020-0.050	 11.10.20 PS/1042	Enlarge / elongate hole in I-beam enough to allow spacer to install.			 11.10.20 PS/1042	

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 HandFinish	Pressure Wash per QSI005 4.3	0.00				1		BR 11-10-25.	
Hand Finishing	Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.	0.00							
200 Powdercoat	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
Powder Coating	Memo START TIME: 1:30 OVEN TEMPERATURE: 3200F FINISH TIME: 2:00	0.00							
210 QC	QC3- Inspect Part Finish	0.00							
Quality Control	Memo Inspect for foreign object per QSI 024	0.00							

1X4 m-f 11/10/25

1 BR 11-10-26.

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo	0.00							
	1-Install inserts as per dwg D2750								
	2-Inspect for Foreign Objects								
	3-Spray inside of tube with "LPS-3" batch: <u>N/A</u>								
	4-Install blade fitting D3488-042, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: <u>118393</u> EXP DATE: <u>10-5</u>								
	5-assemble o-ring to plug as per dwg D3492 and apply o-ring lube A/R 55-o-ring lube batch: <u>110348</u>								
	6-Coat all exposed fasteners with "LPS Procyon" batch: <u>114596</u>								

1 BR 11-10-26

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Package as per PPP D350-636-012								
280 	QC21 - Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

MUI

11/10/31

ME 11-10-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Tuesday, October 04, 2011 11:42:01 AM

Page 1

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Parent Item: D350-636-012

Parent Item Name: Skidtube RH



Start Date: 10/4/2011

Start Qty: 1.00

Required Date: 10/21/2011

Required Qty: 1.00

Comments: IPP Rev:I 02.09.25 Rearranged procedure steps KJ
 IPP Rev:J 06-03-29 As per Rev D EC
 IPP Rev:K 06-07-13 As per dsi9343 EC
 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:M 08-04-22 update steps 4,13 DD verified by:EC
 IPP Rev:N 08-09-23 revF as per dwg DD verified by:ec IPP Rev:O
 10.06.22 revise seq110 DD verf:EC IPP Rev:P 10.10.01 as per
 IIN revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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ALS4-1032-225 Purchased

No

Each

1,852.000

38



Insert

Location

Loc Qty

Loc Code

ST282

118696

1852

110768

62

118386

860

118966

930

38.

AN3C5A

Purchased

No

230

Each

1,520.000

34

34



Bolt

Location

Loc Qty

Loc Code

FP-A

7

115835

7

ST350

1513

116419

28

117343

314

117764

169

117872

2

118451

500

119127

500

34.

BR 11-10-26

BR 11-10-26

W/O:		WORK ORDER CHANGES					
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Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C6A Purchased No

230

Each

256.0000

4

4



BOLT



BR 11-10-26

Location	Loc Qty	Loc Code
FP-A	1	
111982	1	
ST351	255	
111982	2	
116419	23	
116549	2	
116704	12	
117619	10	
117688	1	
117872	5	
118422 ✓	200	

AN6C44A Purchased No

230

Each

137.0000

4

4



BOLT



BR 11-10-26

Location	Loc Qty	Loc Code
FG	2	
103964	2	
ST344	135	
118332	15	
118387 ✓	50	
118985	40	
119125	30	

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Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased

No

230

Each

119.0000

1

1



BOLT



BR 11-10-26

Location

Loc Qty

Loc Code

FP

83

117511 ✓

17

118286

66

FP-A

1

115960

1

ST345

34

117834

34

ST346

1

114442

0

115188

0

115960

1

AN960C10L

~~X~~ NAS1149C0332 /
R

Purchased

No

230

Each

0.0000

38

38



118354



38. BR 11-10-26

washer

D2745

Manufactured

No

230

Each

213.0000

8

8



BR 11-10-26

Bushing

Location

Loc Qty

Loc Code

FP-A

51

69529

51

ST023

162

71835 ✓

162

8

W/O:		WORK ORDER CHANGES					
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Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D3488-042

Manufactured No

230

Each

21.0000

1

1



Blade Fitting Assembly, RH

Location

Loc Qty

Loc Code

FP008

21

62003

1

69904

9

71883

11



BR 11-10-26

D3492-1

Manufactured No

230

Each

126.0000

8

8



Plug

Location

Loc Qty

Loc Code

FP

126

69531

8

73402

118



BR 11-10-26

D3492-3

Manufactured No

230

Each

85.0000

8

8



Plug

Location

Loc Qty

Loc Code

FP

85

71838

76

72126

9



BR 11-10-26

D3535-25

Manufactured No

230

Each

11.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP018

11

62233

1

69743

7

73424

3



BR 11-10-26

W/O:		WORK ORDER CHANGES					
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Start Qty: 1.00

Required Qty: 1.00

D3536-25

Manufactured No

230

Each

1.0000

1

1



Gasket



BR 11-10-26

Location

Loc Qty

Loc Code

FP012

74526

1

1

70780

1

D3537-1

Manufactured No

230

Each

102.0000

3

3



Wearpad



BR 11-10-26

Location

Loc Qty

Loc Code

FP001

74597

95

3

72124

5

73394

30

73395

60

FP017

7

69817

5

70686

2

D3631-1

Manufactured No

230

Each

155.0000

8

8



Washer



BR 11-10-26

Location

Loc Qty

Loc Code

ST072

155

68062 ✓

155

8.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, October 04, 2011 11:42:01 AM

Work Order ID: 74625

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D3791-1 Manufactured No

230

Each

8.0000

1

1



Wearplate

Location

Loc Qty

Loc Code

FP017

74527

6

62239

2

69282

4

FP17

2

72158

2

1

BR 11-10-26

D3793-1 Manufactured No

230

Each

14.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP001

14

73422✓

14

1

BR 11-10-26

D3793-3 Manufactured No

230

Each

6.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP018

74593

6

70813

4

72160

2

1

BR 11-10-26

D3794-1 Manufactured No

230

Each

6.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP010

74529

6

70779

6

1

BR 11-10-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, October 04, 2011 11:42:01 AM

Work Order ID: 74625

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D3794-3
Gasket

Manufactured No

230

Each

14.0000

1

1



BR 11-10-26

Location Loc Qty Loc Code

FP002 7

73423 ✓ 7

FP018 7

70812 7

1

MS21043-6
NUT

Purchased No

230

Each

529.0000

4

4



BR 11-10-26

Location Loc Qty Loc Code

FG 20

103693 20

ST301 509

112314 ✓ 299

117887 10

118384 200

4

MS21083C8
NUT

Purchased No

230

Each

85.0000

1

1



BR 11-10-26

Location Loc Qty Loc Code

FP-B 1

115884 1

ST293 12

118077 12

ST303 72

115884 0

118354 22

118614 ✓ 50

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, October 04, 2011 11:42:01 AM

Work Order ID: 74625

Parent Item: D350-636-012

Parent Item Name: Skidtube RH



Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0832R

Purchased

No

230

Each

351.0000

1

1



WASHER



BR 11-10-26.

Location

Loc Qty

Loc Code

FP-B

23

114915 ✓

23

ST297

328

114915

328

1

NAS1515H3L

Purchased

No

230

Each

141.0000

4

4



WASHER



BR 11-10-26.

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

101

113362 ✓

57

118686

44

4.

NAS1611-010

Purchased

No

230

Each

143.0000

8

8



O-RING



BR 11-10-26.

Location

Loc Qty

Loc Code

FP

129

117460

8

118077

1

118612 ✓

120

FP-A

14

110915

14

8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, October 04, 2011 11:42:01 AM

Work Order ID: 74625

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-013

Purchased

No

230

Each

140.0000

8

8



O-RING

Location

Loc Qty

Loc Code

FP

55

117291

2

117887

53

FP-A

85

116582

5

118384 ✓

80

250

Each

81.0000

2

2

AN8C21A

Purchased

No



BOLT

Location

Loc Qty

Loc Code

ST345

81

118045

31

118758

50

250

Each

25.0000

1

1

D2741

Manufactured

No



Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST466

25

70667

25

250

Each

65.0000

2

2

D3493-1

Manufactured

No



Washer

Location

Loc Qty

Loc Code

ST062

65

70697

27

71846

38

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, October 04, 2011 11:42:01 AM

Work Order ID: 74625

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D3532-1 Manufactured No

250

Each

36.0000

2

2



Spacer



SP

Location

Loc Qty

Loc Code

ST065

15

69895

15

ST068

21

73342

21

2x

2x

MS21083C8

Purchased

No

250

Each

85.0000

2

2



NUT



SP

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST293

12

118077

12

ST303

72

115884

0

118354

22

118614

50

2x

NAS1149D0863J

Purchased

No

250

Each

142.0000

2

2



WASHER



SP 11-10-27

Location

Loc Qty

Loc Code

ST298

142

118078

142

2x

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, October 04, 2011 11:42:01 AM

Work Order ID: 74625

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110

Each

17.0000

1

1



Extrusion Bent



SAD 11-10-05

Location

Loc Qty

Loc Code

LG

17

66875

8

73253

9

73253

~~B75023~~ (1)

D2744

Manufactured No

110

Each

73.0000

1

1



Cap



BE 11/10/17

Location

Loc Qty

Loc Code

LG002

17

62715

1

70881

16

WA

56

71861

56

D2739

Manufactured No

160

Each

8.0000

1

1



350 I Beam



SAD 11-10-19

Location

Loc Qty

Loc Code

LG

8

72154

4

72155

4

I could be
either or
for both

same as extrusion

(1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, October 04, 2011 11:42:02 AM

Work Order ID: 74625

Parent Item: D350-636-012

Parent Item Name: Skidtube RH



Start Date: 10/4/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

D2743

Manufactured No

160

Each

230.0000

8

8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

172

69818

5

71839

103

73403

64

LG001

58

67766

4

68251

54



BE 11/10/20

8

D3490-3

Manufactured No

160

Each

70.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

70

70768

10

73295

60



BE 11/10/20

4

D3490-1

Manufactured No

160

Each

82.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

80

67773

5

69823

10

71841

65

LG001

2

62450

2



BE 11/10/20

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
 - ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
 - POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
 - BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
 - MINIMUM YIELD TENSILE STRENGTH = 35 KSI
 - MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 74625 M.C.J
11/10/04

RELEASED

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	PA	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	PA		
CHECKED	PA	DRAWING NO.	REV. F
MFG. APPR.	PA	D2750	SHEET 1 OF 11
APPROVED	PA	TITLE	SCALE
DE APPR.	PA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

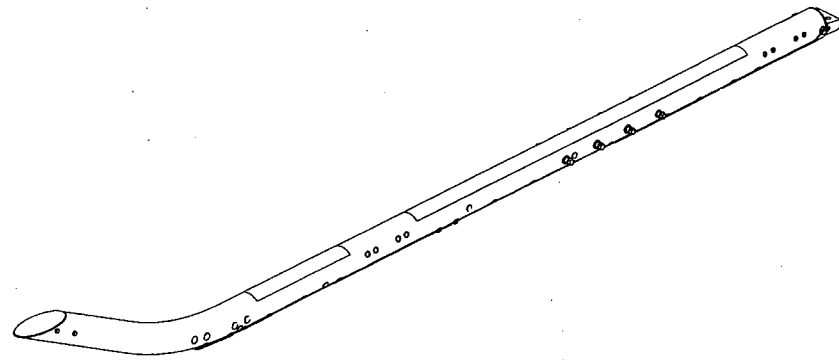
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

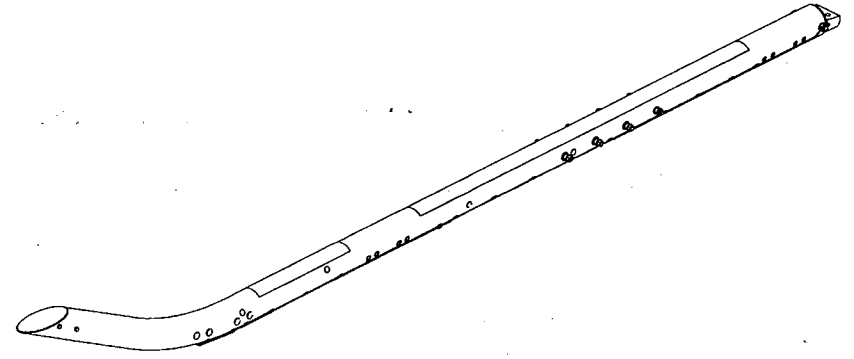
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

74625



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
18 JUL 1977

DESIGN	PCJ	DART AEROSPACE USA, INC.	
DRAWN	AD	PORT HADLOCK, WA	
CHECKED	SA	DRAWING NO.	REV. F
MFG. APPR.	SA	D2750	SHEET 2 OF 11
APPROVED	ME	TITLE	SCALE
DE APPR.	SA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

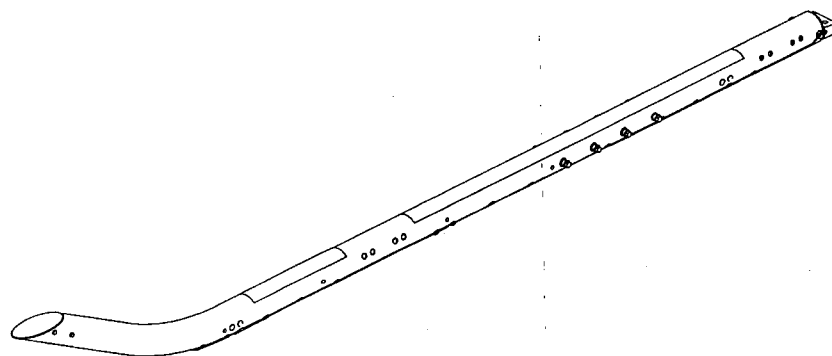
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

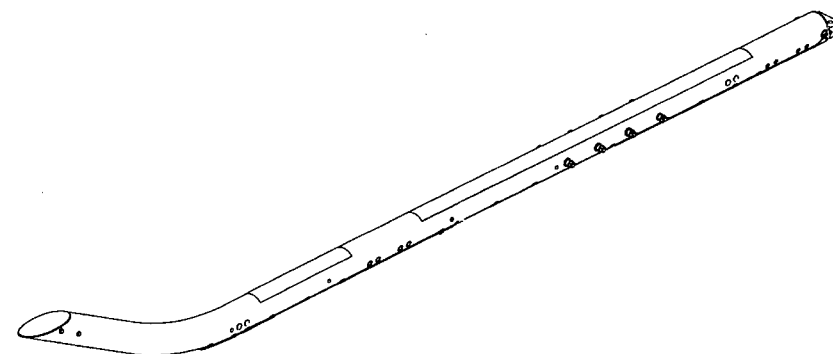
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

74625



D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
64-9-22/14

DESIGN	PH	DART AEROSPACE USA, INC.	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	NA	DRAWING NO.	REV. F
MFG. APPR.	NA	D2750	SHEET 3 OF 11
APPROVED	NA	TITLE	SCALE
DE APPR.	NA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

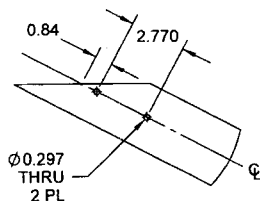
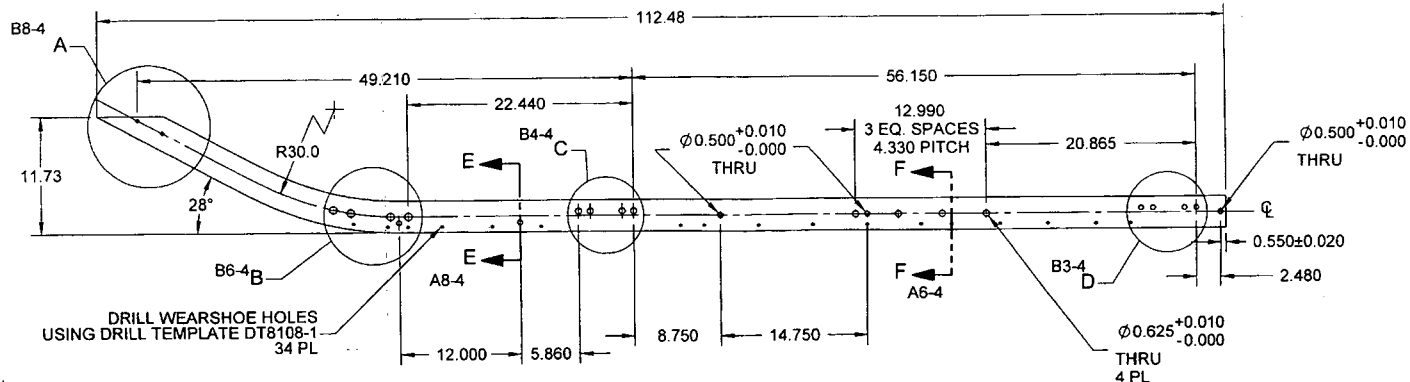
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

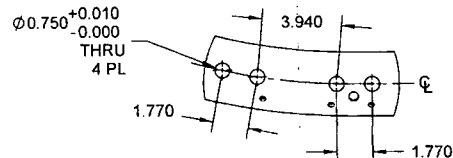
74625

D2750-1 LH SKIDTUBE**RELEASED**

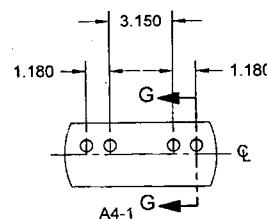
DESIGN	JP	DART AEROSPACE USA, INC.	
DRAWN	JP	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 4 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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**DETAIL A**
SCALE 2X

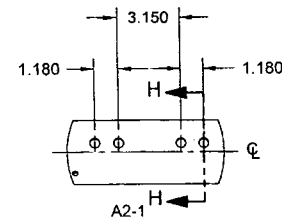
D7-4

**DETAIL B**
SCALE 2X

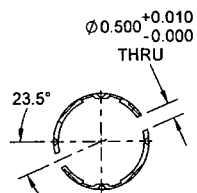
D7-4

**DETAIL C**
SCALE 2X

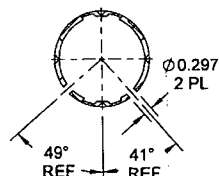
D5-4

**DETAIL D**
SCALE 2X

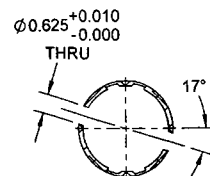
D3-4

**SECTION E-E**
SCALE 3X, 2 PL

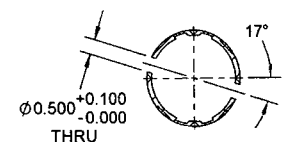
D6-4

**SECTION F-F**
SCALE 3X, 17 PL

D4-4

**SECTION G-G**
SCALE 3X, 4 PL

B4-4

**SECTION H-H**
SCALE 3X, 4 PL

B2-4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

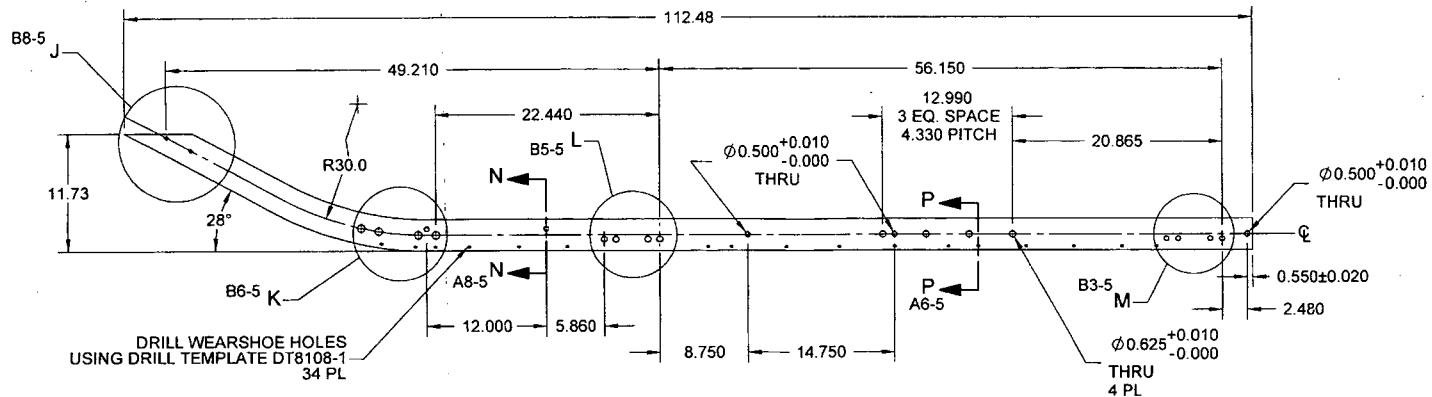
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

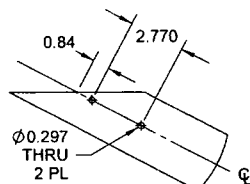
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

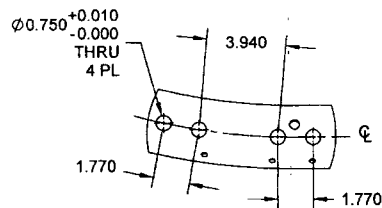
74625



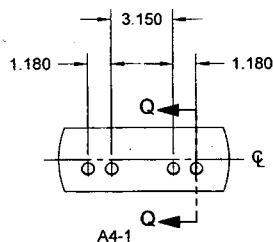
D2750-2 RH SKIDTUBE



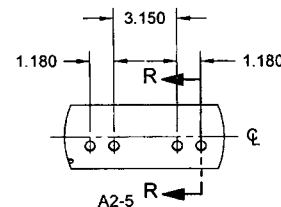
DETAIL J
SCALE 2X



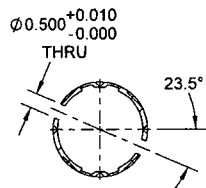
DETAIL K
SCALE 2X



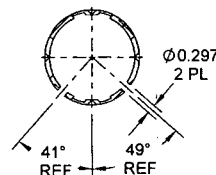
DETAIL L
SCALE 2X



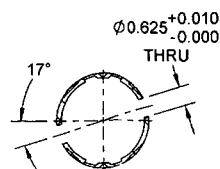
DETAIL M
SCALE 2X



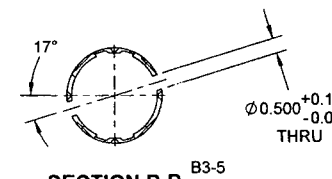
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

RELEASED

DESIGN		DART AEROSPACE USA, INC.
DRAWN		PORT HADLOCK, WA
CHECKED		DRAWING NO. D2750
MFG. APPR.		REV. F
APPROVED		SHEET 5 OF 11
DE APPR.		TITLE 350 SKIDTUBE ASSEMBLY
DATE	08.07.16	SCALE NTS

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

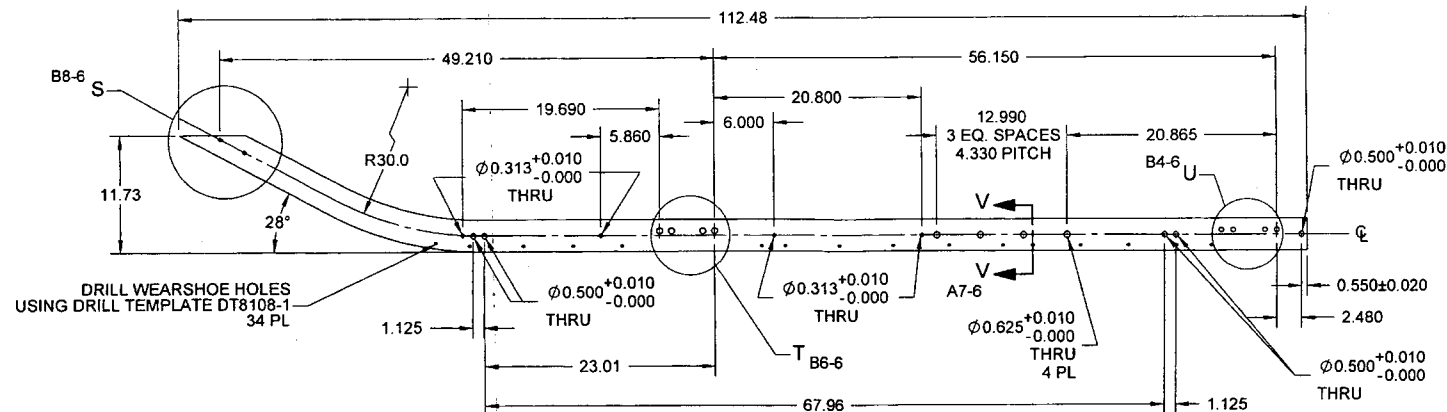
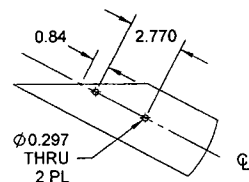
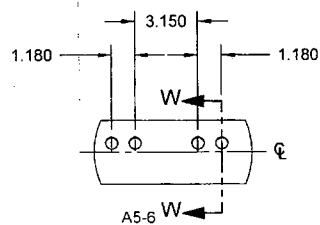
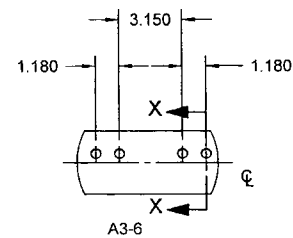
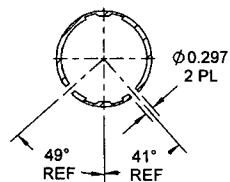
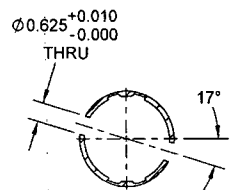
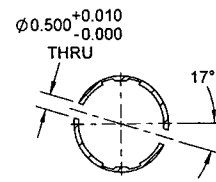
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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**D2750-3 LH SKIDTUBE****DETAIL S**
D8-6
SCALE 2X**DETAIL T**
C5-6
SCALE 2X**DETAIL U**
D3-6
SCALE 2X**SECTION V-V**
C4-6
SCALE 3X, 17 PL**SECTION W-W**
B6-6
SCALE 3X, 4 PL**SECTION X-X**
B4-6
SCALE 3X, 4 PL**RELEASED**

DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO. D2750	REV. F
MFG. APPR.			SHEET 6 OF 11
APPROVED		TITLE 350 SKIDTUBE ASSEMBLY	SCALE
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

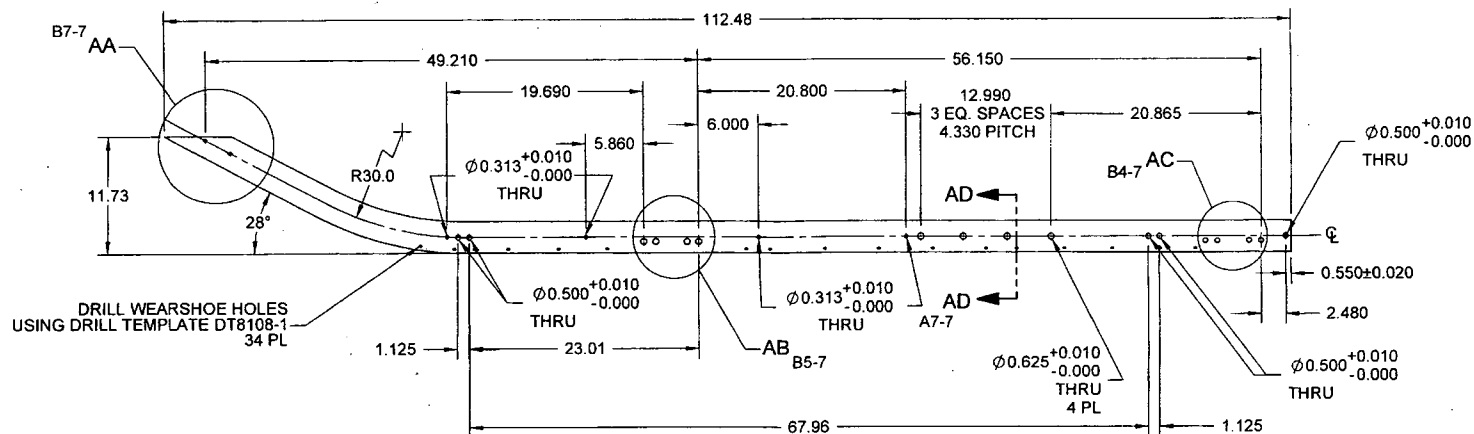
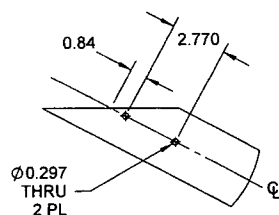
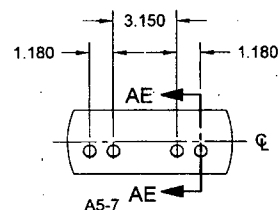
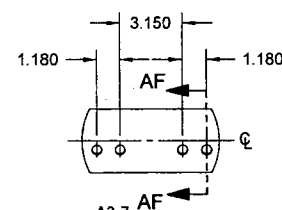
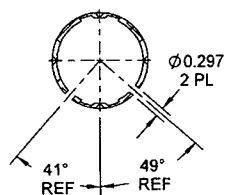
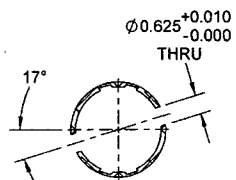
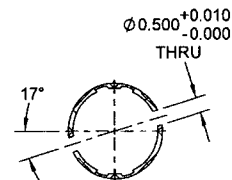
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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**D2750-4 RH SKIDTUBE****DETAIL AA**
SCALE 2X**DETAIL AB**
SCALE 2X**DETAIL AC**
SCALE 2X**SECTION AD-AD**
SCALE 3X, 17 PL**SECTION AE-AE**
SCALE 3X, 4 PL**SECTION AF-AF**
SCALE 3X, 4 PL**RELEASED**

DESIGN	RA	DART AEROSPACE USA, INC.	
DRAWN	RA	PORT HADLOCK, WA	
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MFG. APPR.	RA	D2750	SHEET 7 OF 11
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

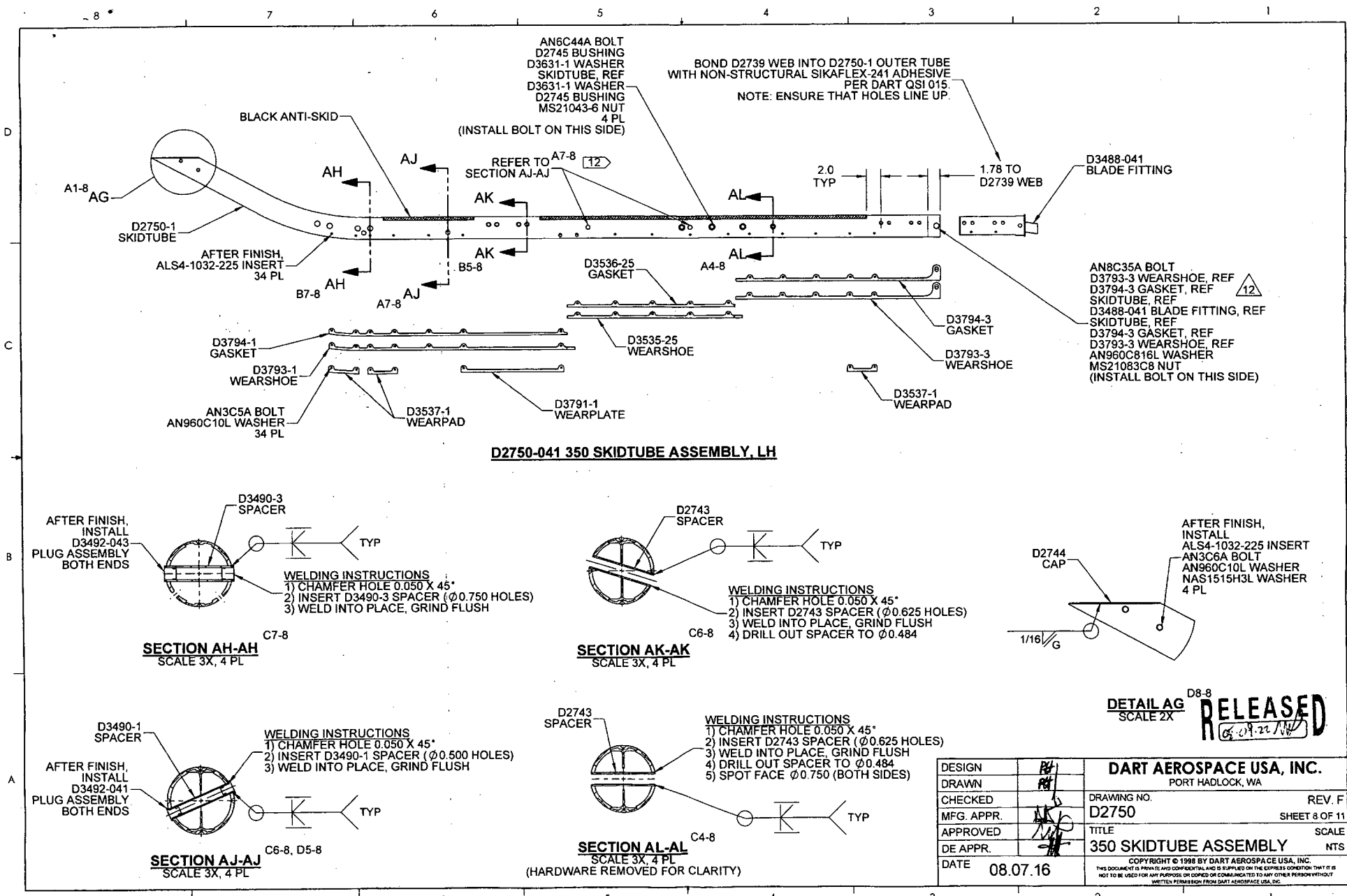
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

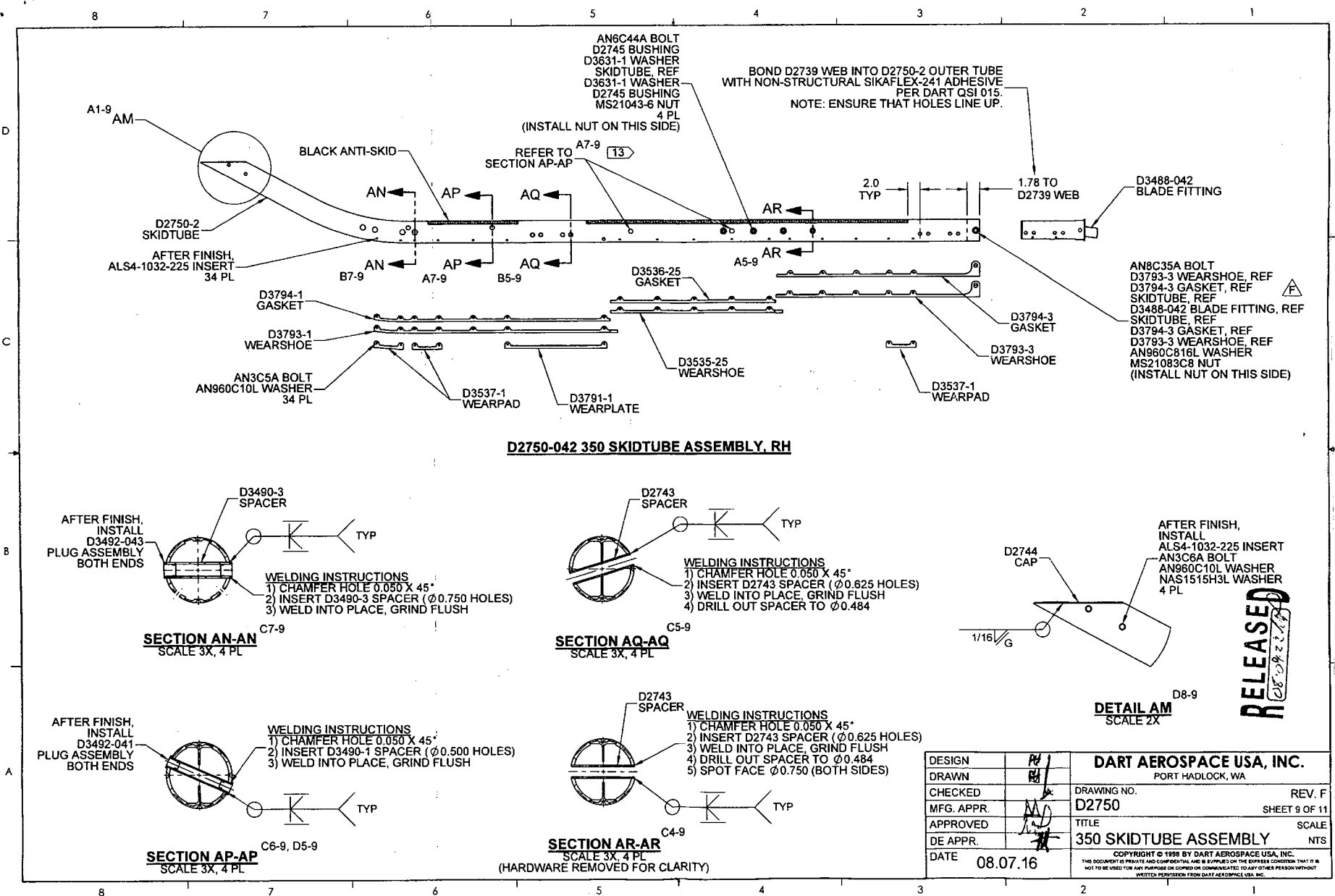
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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RELEASED
08-09-22-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

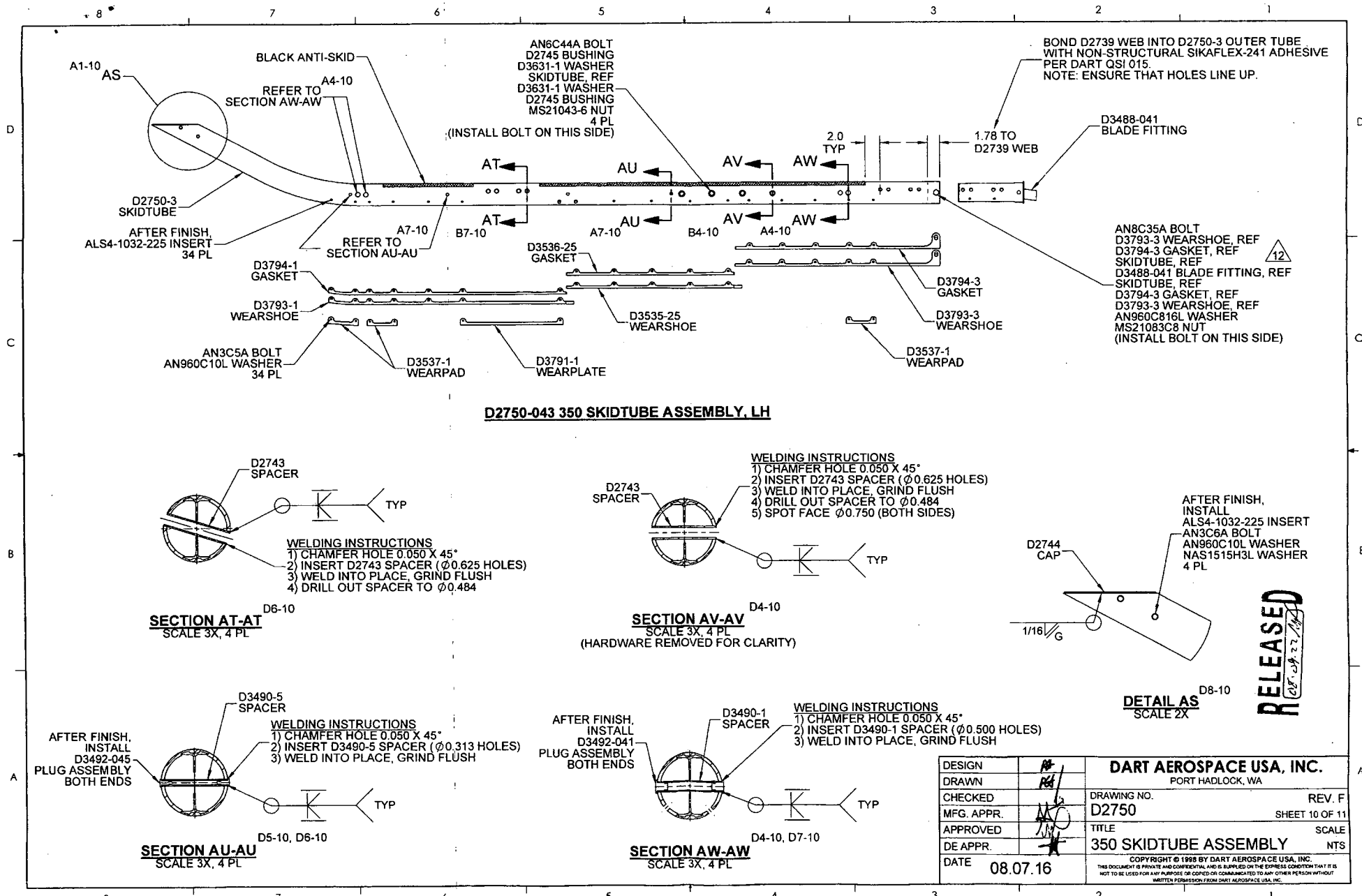
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng #: Prod Mgr	Approval QC Inspector

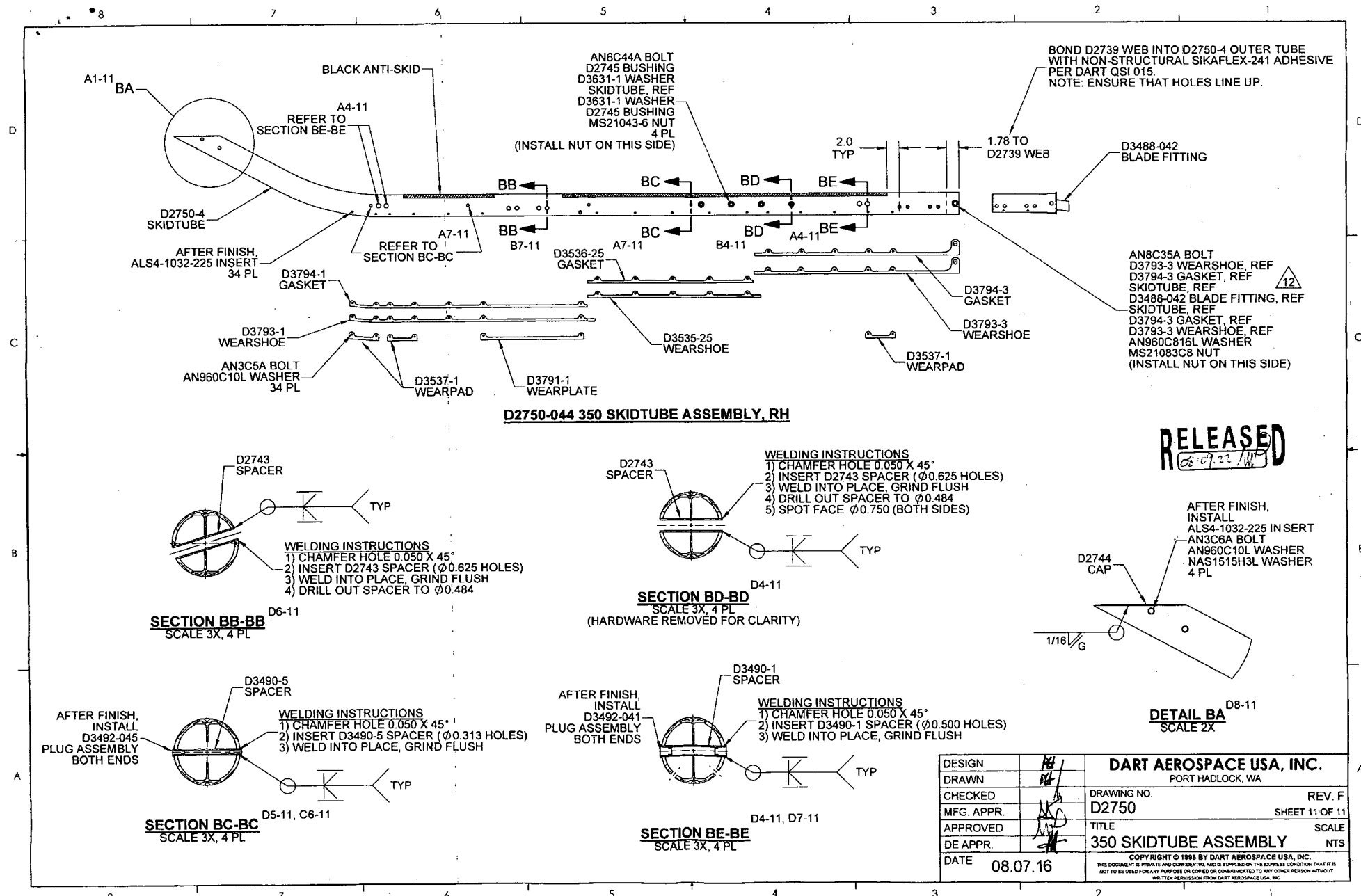
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 270

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: B72821
Part number: D350 636 D12
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pat Cummings Date of Test Coupon 11-10-07
Welder Barclay Elliott Date of Test Coupon 11-10-07

The above named individual is qualified in accordance with AWS D17.1.2001 to weld